

**ARIZONA STATEWIDE WATER ADVISORY GROUP  
DISCUSSION PAPER  
CONCEPTUAL REVENUE SOURCES  
FOR THE  
ARIZONA WATER RESOURCES DEVELOPMENT FUND  
(A REVOLVING LOAN FUND AND TECHNICAL ASSISTANCE GRANT  
PROGRAM ADMINISTERED BY WIFA)**

**Introduction**

On December 7, 2007, a committee of the Statewide Water Advisory Group (SWAG) met and discussed potential revenue sources to fund the Arizona Water Supply Development Revolving Fund (Water Supply Fund). The Water Supply Fund was authorized by H. B. 2692 in 2007. The Water Infrastructure Finance Authority (WIFA) is the agency responsible for administering the Fund with oversight from the Water Supply Development Fund Committee. The legislation specifies several financial provisions for the Water Supply Fund including:

1. Monies received from the issuance of water supply development bonds
2. Monies appropriated by the legislature.
3. Monies received for water supply development purposes from the United States government.
4. Monies received from water providers as loan payments, interest and penalties.
5. Interest and other income received from investing monies in the fund.
6. Gifts, grants and donations received for water supply development from any public or private source.

H. B. 2692 contains the statement that the Legislature finds that many water providers in Arizona, particularly in rural areas, lack access to sufficient water supplies to meet the long-term water demands and these providers need financial assistance to construct water supply projects and obtain additional water supplies. The intent of the Legislature as stated in the Act is that the Water Supply Development Revolving Fund be established and used to provide financial assistance to water providers. The purpose of the SWAG Committee meeting was to discuss the possibility of additional revenue sources that would provide dependable, long-term financial assistance consistent with the legislative intent.

Many ideas for a permanent revenue source were discussed at length. Although, no particular set of recommendations was agreed to by all of the participants, the overall

discussion provided enough information to prepare a conceptual report for further discussion and critique.

### **Problem Statement**

In the first few meetings of the SWAG in 2006, several SWAG members presented information about their local and regional water issues. Many of the members reported a need for long-term, secure water resources to protect the health and welfare of the citizens living in their areas. One result of the deliberations of the SWAG was HB 2692, which authorized revolving loans from the Water Supply Fund. Appropriations to the Water Supply Fund were minimal for 2007 to allow WIFA to prepare rules for the administration of the loan and grant programs.

The problem statement for the SWAG Committee is: how will the Water Supply Fund be funded, and how much revenue is necessary to provide sufficient financial assistance for acquiring water supplies and construction of supply projects?

The source of revenue for the Water Supply Fund must be matched to the ultimate size of the fund and the length of time needed to accrue a sufficient corpus of funds to offer loans. In general, if a great number of large projects are needed throughout Arizona over a long period of time, then the revenue sources need to provide a permanent, dependable and sufficient income for a long period of time.

### **Background**

At the October 26, 2007 SWAG meeting, Judy Navarette, Executive Director of WIFA, explained that the WIFA revolving loan funds for the Drinking Water and Clean Water programs took about eight to ten years to accrue enough revenue to make meaningful loans to meet the needs of the local water providers throughout the State for infrastructure improvements and upgrades. Beginning in the early 1990's, the U.S. Environmental Protection Agency (EPA) provided annual disbursements to WIFA to build up the funds. There were some state appropriations. In 2007, \$133 million were loaned from the Clean Water Revolving Fund and \$67 million from the Drinking Water Fund, for a total of \$200 million. As of 2007, \$682 million of revolving fund loans are outstanding for the two programs. These funds are used to help construct and improve municipal water and wastewater treatment plants. A primary purpose for the funds is to assist communities with compliance issues.

In 2007, \$651,000 in grants was also awarded for technical assistance to several communities across the State for water system planning.

The allocation of monies to the WIFA fund is determined in part by the estimated need for infrastructure improvements. The needs are estimated by a survey that is completed every four years. The cost of the last survey was approximately \$330,000 for both

revolving funds. The results of the survey indicated approximately \$9 billion in needs for the Drinking Water Revolving Fund and \$6 billion for the Clean Water Revolving Fund over the next several decades.

The experiences of WIFA indicate that a secure, dependable revenue source will be needed for many years to build assets in a large enough quantity to serve the water development needs in Arizona. The estimated size of the Water Development Fund should be determined by a needs survey for the communities in Arizona. However, some information is available from studies that are currently underway. At this time, two appraisal level studies have been completed for the Coconino Plateau and the Sierra Vista Sub-watershed. Active planning is taking place to transport water from Cragin Reservoir to the Payson area and from the Big Chino Wash area to the tri-cities in the Prescott AMA. Other areas that will have water development needs include the Verde River groundwater basin and the Sacramento-Hualpai-Detrital Basins in Mohave County. Detailed hydrologic studies are underway in the Benson area of the Upper San Pedro Basin and in the Douglas and Wilcox Basins. The results of the studies may lead to an identification of future water development needs to address long-term water supply problems. Within the Active Management Areas, new water acquisition or development projects may be identified during the development of the Fourth Management Plan.

Even without a detailed needs assessment, it is reasonable to assume that within the next five to twenty-five years, a fund at least equivalent in size to the two WIFA funds will be essential to assist local water providers and governments to meet their long-term dependable water supply needs.

### **Revenue Sources – Conceptual Principles**

The discussion about possible revenue sources for the Water Development Fund by the SWAG Committee centered on a key question: who pays and who benefits from water supply development projects? A great many perspectives on this question were expressed at the committee meeting and in previous meetings of the SWAG. To aid in the systematic evaluation of any ideas for revenue source, four conceptual principles are proposed.

1. **Dependability and Predictability** – The revenue source must be dependable and predictable over a long period of time. This principle is necessary to allow the fund to be built with modest investments over time, be available for projects that will be proposed in the twenty-year or longer timeframe, and to create a capacity for revenue bonding. Also, income from the revenue source should not be subject to large swings so that bonding agencies and communities that are planning water supply projects can be reasonably assured that predicted revenue will be available to meet financial commitments.

2. **Adequate Funding** – The revenue sources must generate enough funding so that within 7 to 10 years significant revolving fund loans may be made. Water supply appraisal studies for the Sierra Vista Sub-watershed and estimates for the Big Chino Valley pipeline indicate that applications for loans as high as \$200 million should be expected. Eventually, larger loans may be necessary.
3. **Mix of Revenue Sources** – A mix of revenue sources is preferred to keep the size of payments from any source or economic sector low and reasonable. A mix of revenue sources also allows the burden of payment to be spread more equitably. The mix of revenue should include some sources of funds that are broadly based across all sectors, and some sources from parties that will be directly eligible to use or benefit from the fund.
4. **Beneficiaries need to contribute** – As closely as possible, a part of the mix of taxes or fees needs to be tied to the benefit received. Several considerations need to be made regarding this principle. The beneficiaries of the projects will eventually pay for the use of the fund because the Water Supply Fund is a revolving fund. Those who help contribute to the creation of the fund may benefit in the future. By continually having funds available for loans over time, a great number of water providers across the state will potentially benefit in the long run. Even where specific water providers may not directly benefit, the citizens of the state may collectively benefit if the fund provides for the development of secure water supplies for other communities. This principle will require consideration about how the benefits and costs might be balanced between regions and economic sectors based on the anticipated requests to access the Water Supply Fund for revolving loans.

## **Potential Revenue Sources**

### **1. Ad Valorem (Property) Taxes**

Property taxes have been used to finance water projects in many places. As an example, within Arizona, the Central Arizona Project (CAP) has the authority to levee a tax of ten cents per one hundred dollars valuation within Maricopa, Pinal and Pima Counties for the purposes of repayment of the project costs to the federal government and operation and maintenance of the district. At this time, the full amount of the tax authorization is not being assessed because other revenue sources are sufficient to cover annual operating costs and debt services. The CAP is also authorized to collect four cents per hundred dollars valuation in the three counties to assist the Arizona Water Banking Authority (AWBA) with the acquisition, recharge and long-term storage of Colorado River water. Entities that reside outside of the three counties may purchase CAP water, but they must pay in-lieu ad valorem taxes equivalent to the annual tax assessment levied upon

property in the three counties. In this way, the tax is “exportable” to entities from other counties or states that participate in interstate banking activities. For example, the Southern Nevada Water Authority (SNWA) participates with the AWBA to recharge water in Arizona. The SNWA must pay the in-lieu tax equivalent to the ad valorem taxes of the CAP.

Ad valorem taxes are dependable and predictable because, unlike sales taxes, they are not as subject to annual swings in the economy. When used by special districts such as the CAP, the beneficiaries of the district services generally are those that pay.

At four cents per one-hundred dollars valuation, the taxes collected to recharge water in Pinal and Pima County have not been an adequate source of revenue. As a result, the lack of sufficient revenues from the ad valorem tax has limited some of the AWBA activities in those counties.

In the case of the Water Supply Fund, the direct beneficiaries of the fund will be water providers. Any property tax could be expected to fall most heavily on large industrial businesses such as power companies and mines, creating a disconnect between the direct benefit and the payment of such a tax for the purpose of creating the Water Supply Fund for revolving loans to water providers.

## **2. Water Withdrawal Fee**

Within Active Management Areas, groundwater right holders must remit an annual withdrawal fee on each acre-foot of water pumped. In 1980, the Groundwater Management Code authorized the following fees to be collected. Up to one dollar per acre foot could be collected to support one half of the administration of the water code. This fee is remitted to the general fund. Up to two dollars could be assessed in the AMAs for water conservation assistance, supply augmentation, monitoring and assessment. Up to two dollars per acre-foot can be assessed after January 2006 to purchase and retire irrigation grandfather rights (IGFR retirement).

In 1997, the fee structure changed in the Phoenix, Pinal, and Tucson AMAs to collect funds to operate the AWBA programs. Two dollars and fifty cents per acre- foot was authorized to partially fund the AWBA through 2017. In 2007, this fee was made permanent to provide sufficient revenue to meet AWBA obligations for firming water supplies allocated to Arizona Tribes under the Arizona Water Rights Settlement Act. The 2007 amendments also authorize the Pinal AMA fee to be used to replenish groundwater withdrawals near the Gila River Indian Community southern boundary.

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The fees assessed for the AMAs for 2008 are:

Groundwater Withdrawal Fee	Phoenix AMA	Tucson AMA	Pinal AMA	Prescott AMA	Santa Cruz AMA
Administration					
Authorized	\$1	\$1	\$1	\$1	\$1
Assessed	\$1	\$1	\$1	\$1	\$1
AWBA					
Authorized	\$2.50	\$2.50	\$2.50	\$0	\$0
Assessed	\$2.50	\$2.50	\$2.50	--	--
Conservation					
Authorized	\$.50	\$.50	\$.50	\$2.00	\$2.00
Assessed	\$.50	\$.50	\$.50	\$2.00	\$2.00
IGFR Retirement					
Authorized	\$2.00	\$2.00	\$2.00	\$2.00	\$2.00
Assessed	\$0	\$0	\$0	\$0	\$0

With regards to dependability, the withdrawal fees vary somewhat with water use and have been reduced as groundwater use has declined. The revenue from the fees has been fairly easy to predict from year to year.

The amount of the fees has not been changed since 1980. As a result, the administration fees have not been adequate to cover one-half of the administration costs of the groundwater code. In contrast, the Conservation and Augmentation fee has been adequate for the purposes of conservation assistance. The conservation assistance programs are tailored to fit within the revenue constraints. The fee supporting the AWBA has not been adequate in the Tucson and Pinal AMAs. There is general agreement that the IGFR Retirement fee was never adequate for the intended purpose.

The conservation and augmentation and AWBA fees have to be used in the AMA where collected. For the most part, the citizens who benefit from the programs are paying for the program.

Extending a withdrawal fee to areas outside of AMAs is problematic in that there is not an equivalent program for the monitoring, reporting and enforcement of groundwater withdrawals. All Community Water Systems are required to annually report withdrawals throughout the State and it may be possible to add requirements for payment of withdrawal fees. Because the Water Development

Fund is intended to service the water providers, any withdrawal fee collected for this purpose would be tied directly to the benefit of the fund. To generate enough revenue to create a source of funding for the Water Development Fund, the fee would have to be higher than that for the AMAs.

### **3. Transaction Privilege Tax**

A transaction privilege tax is used by the state to collect taxes on the operation of a business. This type of tax is used to provide partial support to the Arizona Water Quality Assurance Revolving Fund (WQARF) that is used to clean up and restore polluted groundwater. This type of tax may also be used by the Upper San Pedro Water District, if it is formed, for the purposes of augmenting and replenishing the groundwater supplies in the Sierra Vista sub watershed.

The fee that is deposited to the WQARF fund is assessed on the sale of water by municipal utilities. It generally taxes all municipal water users at a rate of 0.65 of one cent per one thousand gallons of water delivered. The proposed fee for the Upper San Pedro Water District, if formed, may be up to \$.50 per thousand gallons.

Payment of the fee is to the Department of Revenue. Enforcement and compliance is by that agency as part of its overall mission.

### **4. Impact Fees**

Many cities assess impact fees on new construction to help pay for water, sewer, transportation and other services or infrastructure costs that are necessary to support new development. These fees vary, but the SWAG members have reported that the fees may be several thousands of dollars per lot. In 2003, a study group called the Arizona Policy Forum recommended that \$500 per lot be assessed to support a revolving loan fund for water supply planning, acquisition and projects.

This type of revenue source would expect to be dependable and predictable. Although the number of housing starts has declined dramatically in the last two years, Arizona has steadily grown over the last four decades. The Arizona Policy Forum emphasized that the growth occurring throughout Arizona will require new, dependable water supplies to ensure a secure long-term future for the State and its regions. The primary reason for the Water Supply Fund is to provide funding assistance to those communities that need resources for water supply planning, acquisition and projects to meet the growth that has occurred and is expected to occur in the next decade.

Assessing a fee on new development for the purposes of acquiring and developing new water supplies is consistent with the concept of providing benefit to the primary payer. The Water Supply Fund is intended to be administered to provide

loans for regions that will need water in the future. Within AMAs, the need will most likely be new development in undeveloped areas outside of the service areas of those water providers with Designations of Assured Water supplies. It is expected that smaller towns throughout Arizona will also need new water supplies. These areas would be expected to be the primary beneficiaries of the Water Development Fund over the life of the fund. Because any water providers will potentially have the opportunity to apply for a loan from the Water Development Fund, charging impact fees on new development to build the loan fund into an adequate size would seem to be a general benefit for persons buying property.

#### **5. Well Impact Fee**

Another revenue source might be an impact fee on applications to drill new wells. Several SWAG members have raised concerns about dry lot subdivisions or lot splits and the impact of the proliferation of wells associated with this type of development. If water development impact fees are assessed on proposed subdivisions, there might be a concern that the impact fee could create an incentive for the proliferation of lot splits and associated wells. An impact fee on the application to drill a new well might provide a disincentive to this type of land sales and subsequent development.

A modest annual fee assessed on all active wells might substitute or be used in conjunction with a well impact.

#### **6. Appropriations from the General Fund**

Appropriations from the general fund are arguably based on the broadest set of revenues including sales, income and property taxes. The competition for appropriations from the general fund is also very wide and diverse. In addition, the appropriations from the general fund are subject to cyclical swings related to general swings in the economy. Any single appropriation, especially if it is not encumbered for high priority annual expenditures, is subject to suspension or reappropriation to other legislative priorities. On the other hand, H.B. 2692 specifically authorizes appropriations from the legislature and appropriations may be an option. There is some precedent for these types of appropriations, for example, some State general funds have been appropriated to the WIFA revolving funds. Outside of Arizona, the State of Colorado reports that a general appropriation of \$10 million was used to start the fund and the legislature may appropriate a small part the revenue from the State Severance Tax Trust Fund for revolving water development funds.

With regards to the possibility for a future appropriation from the Legislature, the AWBA is expecting to receive payment over the next decade from the SNWA for interstate banking activities that may be in excess of the costs that the AWBA will



have to pay. If so, the Legislature may consider appropriating these excess funds to the Water Development Fund.

## **Conceptual Revenue Proposal**

To initiate a discussion about a concept for funding the Water Development Fund from a variety of revenue sources, three of the five fees or taxes are proposed. The committee that discussed the funding issues did not suggest any proposal and no member of SWAG has suggested any particular proposal. All estimated revenue was based on generalized assumptions and should be considered first order approximations.

### **1. Appropriations from the Legislature**

Approximately \$10 million per year, for ten years is proposed to be appropriated by the Legislature to the Water Development Fund. This revenue would be appropriated from the monies paid by the Southern Nevada Water Authority that the AWBA is collecting to recharge water for interstate purposes. SNWA will begin equal payments of \$23 million starting 2009. It is assumed for this analysis that \$10 million per year may be available for appropriation. The actual cash flow may be different as the AWBA may have need for more cash for recharge in the earlier years. The assumed cash flow, \$10 million per year, may be adjusted as necessary to meet the AWBA requirements pursuant to the interstate banking agreement with SNWA.

If \$10 million per annum is available, assuming a 3% interest income, the Water Development Fund would have \$79 million from this revenue source by the end of seven years. By the end of 2025, this revenue source might be as much as \$145 million.

### **2. Transaction Privilege Tax**

If a transaction privilege tax is assessed on all water delivered by municipal water providers throughout the State, several million dollars per year might be collected for the fund. Assuming a tax rate of five cents per one thousand gallons of water sold, as much as \$17 million per year might be generated. If the tax rate was ten cents per thousand, \$34 million per year would result. After 7 years this revenue source might generate between \$136 and \$272 million compounded at 3%. By 2025, the revenue might generate \$520 to \$940 million.

These charges would amount to between fifty cents and one dollar per month increase for every 10,000 gallons purchased. WIFA reports that the average water use per household used for its studies is 7,500 gallons per month. Utilizing U.S Census average persons per household for Maricopa County and the Phoenix

AMA target water use per household, the average monthly water use is estimated to be about 9,900 gallons\* .

### **3. Impact Fees**

The Arizona Policy Forum suggested that an impact fee of \$500 per lot be imposed on new construction. The Eller College of Management, Economic Outlook for 2008/09, predicts that housing starts will continue to decline and bottom out at 38,000, or possibly as low as 30,000 units per year in the next two years. The report shows a graph of the housing starts since 1989. The graph indicates that 60,000 units per year would not be an unreasonable long-term estimate.

Assuming 30,000 units for a low estimate and 60,000 units for a high estimate, a fee of \$250 per start would generate between \$7.5 to \$15 million per year. After seven years, the fund would have available between \$59 and \$118 million for revolving loans, assuming a 3% interest income. By 2025, the revenue might generate between \$168 and \$336 million.

Impact fees on new wells could supplement this revenue source. Approximately 4000 Notices Of Intent (NOI) to drill new wells are received each year, (not including exploration wells). If the same fee of \$250 was applied, approximately \$1 million per year would be generated. A larger fee might be considered to provide an incentive to develop new subdivisions rather than lot splits. Up to \$1,000 might be proposed, which would create approximately \$4 million. If the fee increase becomes a disincentive to drill new wells, the possible revenues would decrease over time. (For the purposes of this paper, these amounts were not added into the estimated revenues. If this type of fee is proposed for the revenue mix, the rates for the impact fee, or other revenue sources might be reduced.)

Over 100,000 exempt wells are on record with the Department. An annual well impact fee of \$10 per well could create revenue of \$1 million dollars per year. (As with the new well impact fee, this revenue is not included in the mix, but could be.)

### **4. Total**

Based on the assumptions stated above, the Water Development Revolving Fund could potentially generate between nearly \$700 million and \$1.3 billion in assets between 2009 and 2025. In the 7 year period, between \$274 million and \$470 million might be generated for loans.

**5. Table Showing Summary of Conceptual Funding Sources (Assuming 3% interest compounded annually starting in 2009)**

Revenue Source	Alternatives	7 years(2015)	17 years (2025)	Proportion
<b>General Fund (AWBA)</b>		<b>\$79 M</b>	<b>\$145 M</b>	<b>19% (Alt #1) 12% (Alt#2)</b>
<b>Alt #1 Transaction Privilege Fee</b>	<b>@ \$.05 per Thousand Gallons</b>	<b>\$136 M</b>	<b>\$387 M</b>	<b>56% (Alt#1)</b>
<b>Alt #2 Transaction Privilege Fee</b>	<b>@ \$.10 per Thousand Gallons</b>	<b>\$272 M</b>	<b>\$773</b>	<b>62% (Alt#2)</b>
<b>Alt #1 Impact Fee</b>	<b>@ 30K New Starts</b>	<b>\$59 M</b>	<b>\$168 M</b>	<b>25% (Alt#1)</b>
<b>Alt#2 Impact Fee</b>	<b>@ 60K New Starts</b>	<b>\$118</b>	<b>\$336 M</b>	<b>27% (Alt#2)</b>
<b>Total Alt #1</b>		<b>\$274</b>	<b>\$700 M</b>	<b>100%</b>
<b>Total Alt # 2</b>		<b>\$470</b>	<b>\$1,255 M</b>	<b>100%</b>

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\* WIFA calculates average monthly water use by household:  
 (2.5 persons per household) X (100 gallons per capita per day) X (30 days per month)  
 = **7,500 gallons per month**

ADWR calculates the average monthly household water use:  
 (2.67 persons per household) X (57 gallons per capita per day interior use)  
 + (178 gallons per day per household exterior use)  
 X (30 days)  
 = **9,900 gallons per month**